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History and Assessment of BTS

TRANSPORTATION DATA PROGRAMS IN HISTORICAL PERSPECTIVE

Many of the major statistical agencies in cabinet departments—the Bureau of the Census, the Bureau of Labor Statistics, the National Agricultural Statistics Service, and others—were established decades ago (see Appendix B). However, no such agency existed in the U.S. Department of Transportation until the Bureau of Transportation Statistics (BTS) was authorized by the 1991 Intermodal Surface Transportation Efficiency Act (ISTEA), even though the federal government has funded transportation projects and been concerned with transportation issues for over 100 years. A primary reason is the long-standing orientation of transportation planning and investment—and the associated data collection and analysis—to specific modes of transportation (e.g., air, highway, mass transit, railroad, maritime) and not to the transportation system as a whole. The institutional structure for transportation planning and investment, in which states, localities, and the private sector play key roles, also helps explain the high degree of decentralization that has historically characterized transportation data development and use.

Modally Oriented, Decentralized Data Development

The Federal Role

The U.S. Department of Transportation (USDOT), established in 1967, is organized along modal lines (see Appendix B for information on the modal administrations and their statistical units). BTS is treated as a modal administration: it is a separate agency, whose director reports directly to the secretary of

transportation. The BTS director is appointed by the president with the consent of the Senate for a term of 4 years.

Most of USDOT's modal administrations antedate the department. For example, an Office of Road Inquiry, the ultimate predecessor to the Federal Highway Administration, was established in 1893 in the U.S. Department of Agriculture: its functions included data collection and analysis related to highways. Federal funding of state highway projects was first legislated in 1916. The Air Commerce Act of 1926 established the predecessor of the Federal Aviation Administration in the U.S. Department of Commerce. Federal support for railroads dates back even further, to the Civil War. When USDOT was established as an entity in 1967, the Federal Highway Administration, the Federal Aviation Administration, and the other modal administrations that were brought under the departmental umbrella continued to a large extent to operate at arm's length from one another.

Similarly, the major data collection programs in USDOT largely developed within and for the various modal administrations. These programs include data on highway conditions; daily travel patterns of households; operating characteristics, freight and passenger miles and revenues, and accidents and fatalities for highways, airlines, railroads, etc.; and many other topics. Some of these programs obtain data through cooperative efforts with state agencies and local officials; other programs obtain data from sample surveys of households and businesses; and still other programs obtain data as a by-product of reports of transportation providers (e.g., airlines, railroads, trucking firms) for regulatory and monitoring purposes.

During the first decade of USDOT's existence (roughly 1967-1977), the department had a strong planning orientation, and the Office of the Secretary invested in cross-cutting, intermodal data systems to complement and strengthen the programs in the modal administrations. It helped fund Bureau of the Census surveys every 5 years of freight or commodity flows (as part of the economic census program) and of long-distance household travel. Regulatory activities of such agencies as the Interstate Commerce Commission and the Civil Aeronautics Board also generated substantial amounts of data, although they were largely specific to a transportation mode.

Subsequently, key sources of data were lost or allowed to lapse. Deregulation of airlines, railroads, bus companies, and trucking companies resulted in reductions in the data collected. Between 1977 and 1992, when BTS began operations, USDOT did not sponsor intermodal commodity or household travel flow surveys.

States, Localities, and the Private Sector

The institutional structure for transportation in the United States involves large investment and operational responsibilities by agencies outside the federal

government. States and local governments account for the largest share of all government expenditures on transportation. (In 1992, total government expenditures for transportation infrastructure investments, operating subsidies, and other expenses amounted to \$113 billion, of which state and local governments accounted for 69 percent from their own revenues and another 19 percent from federal grants.) Private investment in transportation equipment and structures is also significant—\$95 billion in 1992, primarily for equipment. (Total public and private expenditures, including investment and operations, attributed to transportation-related final demand in estimates of the U.S. gross domestic product amounted to \$642 billion in 1992 and \$725 billion in 1994.)¹

As noted earlier, some of the data collection programs in USDOT rely on cooperative arrangements with state and local agencies. Such agencies have historically collected large amounts of data for their own use, as well as to support federal needs, which provide important information on the performance and condition of the transportation system.

State highway departments (now state departments of transportation, DOTs) were some of the first agencies to collect data on travel patterns in the United States during the 1920s. Today, state DOTs collect data on bridge and road conditions, congestion levels, multimodal passenger ridership, freight movement, vehicle use characteristics, vehicle fleet mix, and accidents, as well as supplementary data that relate to the impacts of transportation investment (e.g., tourism expenditures, construction dollars, jobs created). At the metropolitan and local level, metropolitan planning organizations (MPOs) and local transportation agencies collect large amounts of data that provide the basis for decisions on regional and local investments. Local providers of transportation services, such as transit agencies, collect data on ridership volumes and customer characteristics.

Regional and local transportation agencies and transportation researchers have for decades spent substantial time and resources to understand travel behavior patterns and the socioeconomic determinants of such travel. They have a long history of using travel surveys, census data, and market research in the development and use of travel forecasting methods.

Outside the public sector, users of the transportation system collect and use data for their own decision-making purposes. Trucking and rail companies, for example, collect large amounts of data on freight shipments, travel times and delays, and commodity flows. Although such data would be useful as part of the infrastructure planning process, their proprietary nature often precludes such use. Associations of transportation users, such as trucking and railroad trade associations, have long-established systems for collecting data that are shared among members and accessible to others.

¹Source for estimates: Bureau of Transportation Statistics (1996b:Tables 2-1, 2-11).

Conclusions

This brief historical review suggests several critical characteristics of the institutional environment for transportation data collection and analysis that have implications for the new BTS:

(1) The governmental structure for transportation investment in the United States is based on principles of federalism. States provide a basic foundation for many of the decisions that are made on such investment.

(2) Metropolitan planning and local transportation agencies have been actively involved in transportation investment decision making for many years.

(3) Consequently, state, metropolitan, and local agencies have been collecting transportation data for a long time. When combined with the data collection activities of private companies, the constituency for both quality data collection efforts and the effective use of these data is immense.

(4) USDOT has collected data, especially on the nation's highway system by working with the states, for many years. There are significant data collection and analysis capabilities located in several modal administrations of USDOT.

(5) Existing transportation data systems, whether developed by USDOT, state, metropolitan, or local agencies, or the private sector, are largely specific to particular transportation modes or specific regions or other areas. Comparable data for analysis of transportation issues across modes on a nationwide basis have largely been lacking.

The Need for Broad-Based Transportation Data

A strategic planning initiative by USDOT in the late 1980s led the Office of the Secretary and others inside and outside the department to realize that there were major gaps and deficiencies in available transportation data for policy purposes. Although recognizing that the large number of public and private transportation data sets served many important purposes, the Office of the Secretary found that most of the available data did not readily support cross-modal, system-wide analysis. Definitions and quality standards varied, and there were no up-to-date nationwide data on household travel and the shipment of goods across modes.

The department's Statement of National Transportation Policy (U.S. Department of Transportation, 1990:112) concluded:

Gaps in transportation data include statistics on domestic and international flows of freight and passenger traffic by all modes, the extent and performance of intermodal connections, the financial and operating characteristics of smaller carriers, and the costs of both for-hire and private transportation incurred by each sector of the economy. While periodic evaluations of the extent, conditions, and performance of transportation facilities, equipment, and services are reported for some modes, they are very limited for others. Multimodal assessments of the entire transportation system to support strategic planning have not been regularly produced in a decade.

The statement committed USDOT to “develop a comprehensive assessment of data needs and priorities of the Department and the transportation community” and to “develop more effective and permanent institutional mechanisms” to improve transportation data coverage, quality, and availability, including linkages among the data collected by different agencies.

Shortly thereafter, a committee of the NRC Transportation Research Board (TRB) reviewed information needs for national transportation policy making. The committee concluded in its report, *Data for Decisions* (National Research Council, 1992a:45), that “substantial data exist about the transportation system, but fall short of providing the information needed to inform policy makers about the strategic issues facing the U.S. Department of Transportation.”

Interestingly, the TRB committee distinguished between *data*, the direct product of a collection process, and *information*, which is data that are processed, organized, interpreted, and communicated to be useful in the context of specific decisions or problems (see Bonnen, 1977). The TRB committee determined that, although many types of data were available in the transportation area, these data often did not represent useful information for addressing transportation policy issues. Two specific deficiencies that the TRB committee and others identified were:

- the lack of data on freight and passenger flows across modes, which means that there was no basis with which to develop information on patterns and trends in the movement of people and goods locally, regionally, nationally, or cross-nationally, and
- the lack of comparability across modes of data in many key areas of performance, including: safety; access to services by such groups as elderly, disabled, low-income, and rural populations; and the efficiency and quality of service provided by the transportation system. Such lack of comparability precluded using the available data for such purposes as determining trouble spots in the system and conducting cost-benefit analyses of alternative transportation investments.

The TRB committee recommended that a transportation data center be established within USDOT. The center should: develop a national transportation performance monitoring system; issue a biennial report about the state of transportation; take responsibility for national passenger and freight flow surveys; engage in cooperative activities with other transportation data providers, including other USDOT modal administrations, to develop links among existing data sources and identify data gaps; and establish mechanisms for obtaining user input on transportation data needs. The transportation data center was envisioned as building bridges to other data programs rather than supplanting them.

With regard to organizational placement, the TRB committee observed (National Research Council, 1992a:9) that:

Many federal agencies have developed and sustained broad data programs to support agency mission objectives by establishing central statistical offices, such as the National Center for Education Statistics Organization of [the transportation data center] should be modeled on the best elements of other statistical agencies . . . [which] function as separate offices with permanent staff and separate budgets, command a strong measure of independence within their agencies to ensure the impartiality and credibility of the data they produce, and have a commitment to quality and professional standards.

The TRB committee sent a letter to Congress while it was considering the ISTEA legislation during 1991, laying out the committee's concerns about data and the options for recommendations that it was considering. (The committee's full report was published subsequent to passage of the ISTEA.) At about the same time, a panel of the National Academy of Public Administration (NAPA) reached a similar conclusion about the desirability of establishing a statistical agency with a broad mandate within USDOT. In August 1991, the NAPA panel stated that "a strong organizational focus is needed in the Department to develop adequate transportation statistics on a continuing basis" (National Academy of Public Administration, 1991).

ISTEA

The 1991 ISTEA (see Appendix A for relevant excerpts) provided for a Bureau of Transportation Statistics. The legislation charged BTS with producing a *Transportation Statistics Annual Report (TSAR)* and with carrying out the following six functions:

- (1) "compiling, analyzing, and publishing a comprehensive set of transportation statistics," covering a range of topics (see Appendix A);
- (2) "establishing and implementing, in cooperation with the modal administrators, the States, and other Federal officials, a comprehensive, long-term program for the collection and analysis of data relating to the performance of the national transportation system";
- (3) "issuing guidelines for the collection of information by the Department of Transportation . . . to ensure that such information is accurate, reliable, relevant, and in a form that permits systematic analysis";
- (4) "coordinating the collection of information by the Department of Transportation . . . with . . . other Federal departments and agencies and collecting appropriate data not elsewhere gathered";
- (5) "making statistics . . . readily accessible"; and
- (6) "identifying information that is needed . . . but which is not being collected . . . and making recommendations . . . concerning extramural and intramural research programs to provide such information."

In another section, the ISTEA established the Office of Intermodalism in the Office of the Secretary and required that office, among other functions, to work through BTS to develop, maintain, and disseminate intermodal transportation data, including data on commodity and passenger flows. Finally, the legislation stated that nothing in it should be construed to authorize BTS to require any other department or agency to collect data or to reduce the authority of any other officer of USDOT to collect and disseminate data independently. In other words, BTS was to take direct responsibility for intermodal data and provide leadership to identify information needs but work cooperatively with the modal administrations to obtain relevant data from their collection programs and other sources.

Why a Statistical Agency

Congress could have chosen some organizational structure other than a separate statistical agency by which to remedy the gaps and deficiencies in transportation data. For example, it could have attached data improvement responsibilities to a policy analysis or research office in the Office of the Secretary. (The department's efforts early in its existence to obtain system-wide data were carried out through the Office of the Secretary.) Alternatively, it could have set up an administrative unit oriented primarily to *data compilation and dissemination* functions—that is, to pulling together and distributing data as broadly as possible, perhaps also including cross-modal analyses of the data. Instead, the 1991 ISTEA called for a *statistical* agency, to which it assigned, in addition to data compilation, analysis, and dissemination, such functions as the establishment and maintenance of statistical standards, the development of national indicators for policy use, coordination of data collection programs, and long-range planning to identify and fill unmet user needs for information. In other words, the ISTEA called for a statistical agency that would perform all the activities necessary to turn data into high-quality, relevant statistical series and other useful information for policy-making, planning, and research purposes.

A report of the Committee on National Statistics (CNSTAT), *Principles and Practices for a Federal Statistical Agency* (National Research Council, 1992b:4-7), identifies key characteristics of an effective statistical agency. (Appendix C compares the current structure and operations of BTS with the criteria in the CNSTAT report.) An effective statistical agency must:

- be established as a separate entity with a strong and clearly defined mission that includes responsibility for assessing needs for information and determining sources of data, measurement methods, and efficient methods of collecting and ensuring the public availability of needed data;
- have a strong measure of independence in order to ensure credibility and objectivity and protect against the actuality or appearance of political manipulation of data;

- adhere to high standards of quality and professionalism in all aspects of its work;
- disseminate data and information about data quality widely and openly;
- maintain credibility with data providers, especially by having effective procedures to protect the confidentiality of individual responses to surveys and other data collection programs;
- seek input and advice on its programs and operations from data users and professional and technical experts;
- have an active research program in relevant substantive and methodological areas that supports user needs for information and improvements in statistical series while remaining policy-neutral; and
- coordinate with other agencies to promote data linkages and increase the productivity of the federal statistical system overall.

A statistical agency does not necessarily or even typically have responsibility for all of the data collection programs in a department. For example, a program office may sponsor surveys for program evaluation purposes, or an administrative unit may collect and disseminate data in a specialized area, particularly when those data are developed from an administrative records system. However, a statistical agency generally manages the major, general-purpose data collection programs of a department. Also, it provides advice to other parts of the department on data collection and analysis and should serve as statistical adviser to the secretary. Moreover, it provides leadership for the department in such areas as setting quality standards for data release and documentation and conducting methodological research on sample design, questionnaire development, evaluation of estimates, and other aspects of data collection and analysis programs.

The CNSTAT report states that the functions of a statistical agency do not belong in a policy analysis shop. A statistical agency should provide data that are policy-relevant and should engage in analysis that interprets the meaning and identifies the limitations of data for policy and other purposes. However, it must remain neutral with regard to policy options in order to maintain credibility.

On the issue of setting up a data compilation and dissemination unit as opposed to a statistical agency, the CNSTAT report (National Research Council, 1992b:10) states:

One reason for establishing a separate statistical agency, rather than leaving statistical data compilation and dissemination activities as a part of a larger administrative operation, is to emphasize the principles and qualities of an effective statistical agency, for example, professional standards and confidentiality, as well as consistency of classifications or breadth of coverage. Another reason is to encourage research and the development of new information in a particular area of public interest.

The reviews of transportation data needs conducted to date, which include the TRB committee review (National Research Council, 1992a) and a section on

“The State of the Statistics” in the first *Transportation Statistics Annual Report* (Bureau of Transportation Statistics, 1994b:177-199), support these motives for establishing a statistical agency with a broad mandate within USDOT. Recurring themes are the lack of comparability across data sets and the lack of data systems to support cross-modal, system-wide analysis—in other words, the lack of useful information for transportation policy analysis, program planning, and research. Many of the specific priorities identified require coordination among agencies inside and outside USDOT and sustained work to improve data comparability and quality and to develop conceptual frameworks for key statistics.

As just one example, a TRB review of data needs for truck safety in the late 1980s found significant discrepancies in estimates of the number of nonfatal truck crashes reported by the National Highway Traffic Safety Administration, the Federal Highway Administration, and the private National Safety Council, due largely to differences in the definitions of “crash” and “truck.” The review also found significant variation in estimates of the rates of fatal and nonfatal truck accidents per mile of travel because of the lack of detailed data on truck travel that were consistent over a period of years to serve as the denominators for accident rates (National Research Council, 1990:12-13). Since publication of that review, improvements have been made in truck safety data, although more remains to be done.

The TRB committee report, *Data for Decisions* (National Research Council, 1992a:91), concluded that “the ad hoc, incremental approaches of the past have not been successful in creating a sustained consistent base of information, which is necessary to the secretary’s national policy, advisory, and decision-making functions.” Both the TRB committee and the NAPA advisory panel stressed the importance of having a strong agency within the department that could provide continuity and a long-term perspective for improving transportation data for policy planning and other purposes. The case for a statistical agency within USDOT with a broad mandate was made clear.

ASSESSING BTS

Experience with the development of national statistics suggests that it takes many years to develop the capabilities, stature, and credibility required for an effective statistical agency in a cabinet department (see, e.g., Duncan and Shelton, 1978; Norwood, 1995). BTS is very young—only 4 years old; it could not be expected to accomplish all of its mandate from the 1991 ISTEA nor to meet all of the criteria for an effective statistical agency in such a short time, and it has not done so. We review BTS’s start-up operations and achievements during the first authorization period—they are considerable although concentrated on particular aspects of its mandate. We also indicate areas and functions that, to date, BTS has addressed to only a limited extent but that must be developed for it to evolve into an effective statistical agency for USDOT.

The Start-Up Years

A major achievement of BTS has been getting the agency organized and staffed. Beginning with a staff of 4 people in October 1992, the agency grew to 37 people by fall 1996, of which 16 were in the Office of Airline Information (OAI). (The OAI was originally part of the Civil Aeronautics Board. It was transferred to the Office of the Secretary in 1984 when the Civil Aeronautics Board went out of business, transferred again to the Research and Special Programs Administration, and then transferred to BTS in May 1995.) BTS is authorized to have 60 full-time-equivalent staff through 1997, of which 20 positions are for OAI. BTS has made progress in filling its vacancies but still has a significant number of authorized vacant positions.

From the beginning, the BTS staff have exhibited high levels of energy and enthusiasm. They are clearly excited to be building a new agency from the ground up and have worked hard to develop and provide products and services to the transportation community. They have made an impressive start in developing BTS output, which includes programs and services that we describe below, organized in terms of the specific mandates for BTS in the 1991 ISTEA (see Appendix A).

Annual Reports

BTS has to date produced three of the *Transportation Statistics Annual Reports (TSARs)* that are mandated in section 6006.f of the 1991 ISTEA (Bureau of Transportation Statistics, 1994b). The first was produced within 15 months of the agency's operational start and provided an overview of the entire system. Subsequent reports have updated that overview and in addition have emphasized particular themes—for example, productivity of the transportation sector in the 1995 report and environmental effects of transportation in the 1996 report.

Intermodal Data on Commodity and Passenger Flows

In response to section 5002.c.4 of the 1991 ISTEA, BTS assumed responsibility for planning and contracting with the Census Bureau for the conduct of the 1993 Commodity Flow Survey and the 1995 American Travel Survey. These are the first surveys in over 15 years to provide data on how freight and people move around in the United States, taking account of all modes of transportation. Summary reports for all 50 states and a national report from the Commodity Flow Survey have been released; more detailed electronic products are planned. The first reports from the American Travel Survey are scheduled for release in summer 1997. BTS has also contributed funds for related surveys sponsored by other USDOT modal administrations, such as the Nationwide Personal Transportation Survey sponsored by the Office of Highway Information Management in the Fed-

eral Highway Administration. (The Nationwide Personal Transportation Survey provides data primarily on daily, short-trip household travel, whereas the American Travel Survey provides data on longer trips.)

Broad Functional Areas Mandated by the ISTEA

Functions 1 and 5 During its start-up period, BTS emphasized two related functions of the six broad areas assigned to it by section 6006.c of the 1991 ISTEA: function 1: compiling, analyzing, and publishing a comprehensive set of transportation data; and function 5: making such data readily accessible. BTS has used both printed and computerized media for compilation and dissemination purposes. In contrast to the practice of most statistical agencies, BTS's data products have so far been provided at no charge to users (with the exception that OAI, following its long-standing practice, charges fees for its products that are set to recover the costs of distribution).

Published products include the annual *TSARs*, which include an analysis for each year of transportation data in a particular area of policy interest. In addition, BTS has produced compendia and guides that bring together many data series and describe the range of public and private transportation data sources and how to find out about them (see Table 2-1). BTS has just begun a peer-reviewed semiannual *Journal of Transportation and Statistics*, which will provide an outlet for studies and analyses that feature aspects of transportation data use and methods. The plan for the *Journal* is for papers to be contributed by staff and solicited from academic researchers and other data users in the field.

Detailed analysis of data requires access to computer-readable data products, and BTS has made numerous transportation data sets available on CD-ROMs and data diskettes. Its first CD-ROM was the Transportation Data Sampler-1, containing selected databases and reports from USDOT modal administrations and other sources. This product was produced in time to be provided to the thousands of people who attended the January 1993 annual meeting of the Transportation Research Board, just a month after the BTS staff first thought of the idea and only a few months after BTS began operations.

BTS has also looked to computer technology to facilitate communication among people working in the transportation field. One of its CD-ROM products is the State and Metropolitan Analysis for Regional Transportation (SMART) CD-ROM, which contains such reference documents as video clips, guidance materials, case studies, dissertations, and surveys, as well as data sets submitted to BTS by MPOs and state DOTs. The purpose of the SMART project is to assist MPO and state DOT planners in responding to the increased planning requirements of the ISTEA and the 1990 Clean Air Act Amendments.

Furthermore, BTS has devoted considerable time and resources to developing and maintaining its home page on the Internet World Wide Web (see Figure 2-1). The ambitious goal of the BTS web site is to serve as a means by which

TABLE 2-1 Printed Periodic Publications of the Bureau of Transportation Statistics

Publication	Frequency	Comments
<i>Directory of Transportation Data Sources</i>	Annual beginning December 1993	Provides one-page abstracts for each data source listed; 1993 volume totaled 330 pages, including entries for USDOT, other federal agency, and United Nations data sources; 1996 volume totaled 649 pages, including entries for USDOT, other federal agency, United Nations, state, private organization, Canadian, and Mexican data sources
<i>Journal of Transportation and Statistics</i>	Twice yearly, beginning 1997	To contain peer-reviewed articles that feature aspects of transportation data use and methodology
<i>National Transportation Statistics (NTS)</i>	Annual beginning 1993 under BTS (published previously by the Research and Special Programs Administration)	Compendium of statistical series for all modes of transportation on performance, safety, costs, energy use, and other topics, compiled from USDOT and other sources; 1993 volume contained 98 tables and 52 charts, with data back to 1960 when possible; 1996 volume contained 134 tables and 42 charts

<i>Transportation Expressions</i>	Two editions to date (1994, 1996)	Comprehensive inventory of transportation terms and definitions with references to specific source; examples of terms include Available Seat Mile (2 definitions), Fatality (5 definitions), Mode (4 definitions), Semitrailer (2 definitions)
<i>Transportation Statistics Annual Report (TSAR)</i>	Annual beginning 1994	Analyzes the state of transportation and transportation transportation statistics; 1994 volume provided overviews of use of the system, performance, costs, safety, energy, and the environment; 1995 volume included special section on the economic performance of transportation; 1996 volume included special section on transportation and the environment; 1997 volume will feature transportation access and mobility
<i>Transportation Statistics Forum</i>	To be determined, to begin in 1997	Newsletter to serve as a two-way channel of communication between BTS and transportation data users

SOURCE: Panel on Statistical Programs and Practices of the Bureau of Transportation Statistics, National Research Council, 1997.

NOTE: Excludes topical and special reports not regularly published.

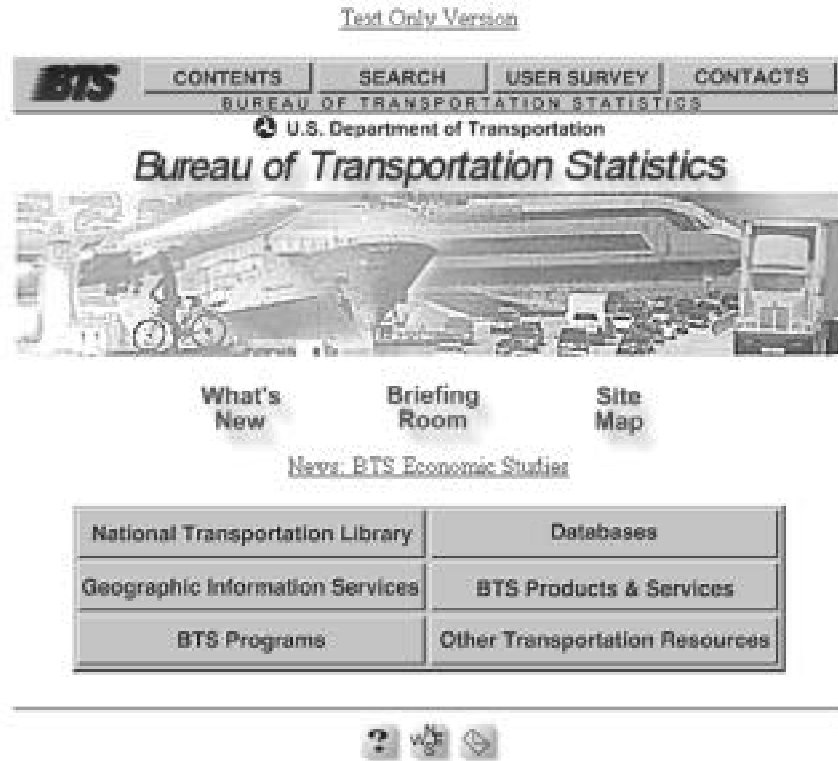


FIGURE 2-1 BTS home page on the World Wide Web (www.bts.gov).

planners and researchers in all levels of government as well as in the private sector can learn of the full range of available data and analyses that pertain to transportation. In addition, the site is meant to serve as a vehicle to put transportation analysts and planners in touch with one another to share knowledge and information.

The site provides direct access to selected reports and data outputs (e.g., tables of trade flows between the United States and Mexico), together with descriptions of other data sources and links to the home pages of other USDOT modal administrations from which data can be obtained. In addition, the site includes the National Transportation Library, which provides under more than a dozen headings the full text of transportation-related reports, analyses, and papers obtained from private and public sources (see Figure 2-2). The emphasis in developing the site has been on making as many links as possible to sources of data. To date, BTS has paid relatively little attention to the quality or complete-

ness of the documentation that needs to accompany the data for their effective use.

Functions 2, 3, 4, 6 The other four broad functions that are assigned to BTS in section 6006.c of the 1991 ISTEA are: (2) developing a data collection and analysis program in cooperation with the modal administrators, states, and other federal officials for monitoring the national transportation system; (3) issuing guidelines for data collection in USDOT to ensure that the resulting information is accurate, reliable, relevant, and usable; (4) coordinating data collection by

BTS CONTENTS SEARCH USER SURVEY CONTACTS
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Directories and References	Right of Way
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FIGURE 2-2 National Transportation Library page from the BTS web site.

USDOT with related activities of other federal agencies and collecting data to fill gaps; and (6) identifying unmet information needs and recommending research programs to provide such information. These areas are more difficult to address, and to date BTS has devoted relatively little effort to them, although it has taken first steps in some of them.

Specific activities that BTS has undertaken with other USDOT modal administrations, other federal agencies, and states and localities in the areas of data development, standards, and identification of unmet needs for information include the following:

- At the request of the modal administrations, BTS provides assistance in preparing materials required for clearance of their surveys by the U.S. Office of Management and Budget.
- Working with and on behalf of the entire transportation community, BTS analyzed the implications of possible changes in the year 2000 decennial census that could jeopardize the availability of small-area data on commuting patterns, and it is continuing to monitor the situation (Bureau of Transportation Statistics, 1996a).
- BTS is active in an interagency committee—the Federal Geographic Data Committee (FGDC)—that is developing standards for geographic information systems (GIS) for mapping and analyzing geospatial data.
- BTS provides funding for six standing committees of the Transportation Research Board, which obtain and distribute papers from transportation researchers and other users on information needs and data applications in several areas (freight transportation data; geographic information systems for transportation; travel survey methods; and national, statewide, and urban transportation data and information systems).
- BTS negotiated a memorandum of understanding with the Bureau of Economic Analysis in the U.S. Department of Commerce by which BEA will work with BTS staff in developing a transportation satellite account. When linked to the National Income and Product Accounts, the transportation satellite account should provide a more complete picture of the role of transportation in the economy (Bureau of Economic Analysis-Bureau of Transportation Statistics Working Group, 1996).
- BTS is developing ways to work more closely with state DOTs and MPOs to identify their information needs; to consider the appropriate role of federal, state, and local agencies in data collection and dissemination; to review the implications of technological advances for data collection and dissemination; and to develop means of technical assistance to states and localities to make more effective use of national transportation data sets. To date, BTS has conducted interviews with officials in selected states and sponsored a conference in spring 1997 for state and local officials jointly with the Federal Highway Administration, the Federal Transit Administration, the American Association of State Highway and

Transportation Officials, and the Association of Metropolitan Planning Organizations. (The Conference on Information Needs to Support State and Local Transportation Decisionmaking into the 21st Century was organized by the Transportation Research Board.)

- BTS has made a priority for fiscal 1998 to begin work with the other modal administrations to develop relevant and timely indicators of the national transportation system.

Discussion

Despite the initial efforts described above to carry out the full mandate of the ISTEA, the primary focus of BTS's efforts to date has been on functions 1 and 5—bringing together and making available a wide range of transportation data, references, and analytical materials in formats that are readily accessible by users. In other words, BTS has operated primarily as a data compilation and dissemination agency. It has not yet evolved into a statistical agency that fulfills a broad mandate to improve the quality and relevance of transportation data to address users' information needs.

The initial strategy to concentrate on data compilation and dissemination—a deliberate choice by the agency at the outset—has had some advantages for the transportation community and for BTS. First, it has helped BTS cope as a tiny, brand-new agency inserted into a department with a number of powerful and long-established entities. BTS has started two important intermodal surveys; for existing data programs from the other modal administrations and other sources, it has described these programs, acted as a conduit for information from them, and made them better known. In this way, BTS has positioned itself to build relationships with the other modal administrations and with other providers of data. Second, BTS's efforts to compile and disseminate a broad range of transportation data have made it easier for users to locate and obtain relevant numbers and data sets. In fact, BTS is far along in providing needed “one-stop shopping” services for transportation data users who otherwise must cope with a highly decentralized set of public and private data-producing organizations. Finally, an emphasis on data compilation and dissemination, particularly through high-technology means, has made BTS more visible to the user community. In effect, this emphasis has helped BTS “get on the map.”

Statistics on the use of BTS's products and services suggest steady growth in the number of transportation analysts and other users who are obtaining data products and other forms of assistance from BTS. For example, calls to the BTS hotline for technical assistance increased from 10 per month in 1993 to 244 per month in 1996, and orders of BTS data products (publications, CD-ROMs, diskettes) increased from 750 per month in the last half of 1994 (when BTS began to build a customer database) to 4,455 per month in 1996. (BTS customer data indicate that, over the 2.5-year period, 55 percent of individual customers have

placed repeat orders: the median number of products ordered by repeat customers is 4.)

Increases in orders, telephone calls for assistance, hits on the BTS web site, and similar statistics, however, require careful interpretation. They do not indicate, except very indirectly, the extent to which BTS customers find its data products and services useful. A customer satisfaction survey that BTS expects to mail to 6,000 customers in summer 1997 and other smaller-scale surveys of BTS users will provide some information on this point. However, such surveys are not likely to indicate the extent to which BTS products and services are helping users to gain improved understanding of transportation policy issues and behavior, nor the extent to which they are providing effective support for public- and private-sector decision making—the ultimate purposes of statistical information programs. Such outcomes are likely to become apparent only over time.

Discussions with representatives of other USDOT modal administrations and with such key constituencies as state officials provide subjective evidence that BTS has become visible to the user community and is believed to be making a positive contribution. These users value BTS's role in bringing together disparate data sets and providing convenient access to a wide range of data sources and reports that bear on transportation issues. They perceive BTS as an objective, honest provider of transportation data and data services.

RECOMMENDATION

Reviews that others have conducted of the modal orientation of transportation data programs and the consequent lack of comparable cross-modal and intermodal information to support policy planning and other purposes underline the need for a statistical agency for USDOT with a broad mandate. Our review of the activities and performance of BTS to date lead us to conclude that BTS has made a strong start in beginning to fulfill its mandate from the 1991 ISTEA. We therefore unequivocally endorse the reauthorization of BTS as part of the reauthorization of the ISTEA or in such other legislative vehicle as the Congress deems appropriate.

Reauthorization of BTS is necessary to ensure that the agency is able to continue to provide useful data compilation, analysis, and dissemination services. Also, reauthorization is necessary so that BTS can further develop the expertise and technical capabilities for an effective statistical agency and carry out all of the activities that are required to enhance the quality and relevance of transportation data and turn them into useful information for the department and transportation community at large.

(1) We strongly recommend that the U.S. Congress reauthorize the Bureau of Transportation Statistics.